

542 616

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
26 August 2004 (26.08.2004)

PCT

(10) International Publication Number
WO 2004/072622 A1

(51) International Patent Classification⁷: G01N 11/16, H01L 41/47, 41/107

(21) International Application Number: PCT/SE2004/000175

(22) International Filing Date: 11 February 2004 (11.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0300375-3 12 February 2003 (12.02.2003) SE

(71) Applicant (for all designated States except US): ATTANA AB [SE/SE]; Björnnäsvägen 21, S-113 47 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): AASTRUP, Teodor [SE/SE]; Grubbensringen 33, S-112 69 Stockholm (SE). SMITH, Jan [SE/SE]; Ringvägen 88, S-118 60 Stockholm (SE). ANDERSON, Henrik [SE/SE]; Tulegatan 70, S-172 72 Sundbyberg (SE).

(74) Agents: ALBIHNS STOCKHOLM AB et al.; Box 5581, S-114 85 Stockholm (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

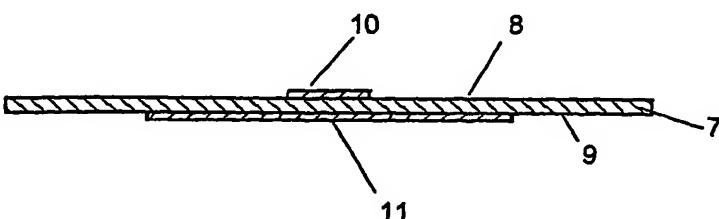
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/072622 A1 (54) Title: PIEZOELECTRIC RESONATOR



(57) Abstract: A piezoelectric resonator for use in a sensor arrangement for detecting or measuring an analyte in a medium, comprises a quartz crystal plate, having a first crystal surface and a second crystal surface. The first crystal surface is provided with a first electrode, which has a surface area of less than 15 mm² and the second crystal surface is provided with a second electrode. The first electrode may have a rectangular surface shape. A flow cell for use in an

apparatus for detecting or measuring an analyte in a medium, comprises walls that form a sensing chamber together with the resonator, and inlet and outlet openings for leading a fluid through the sensing chamber. A part of the resonator constitutes one of the walls of the sensing chamber and is arranged such that the first electrode is situated inside the sensing chamber.